

Notice of Allowability

Application No.

10/693,345

Applicant(s)

CHENG, YA-AN

Examiner

Peter L. Cheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/6/2007.
2. ☒ The allowed claim(s) is/are 3-20, 23-28 and 30-36.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

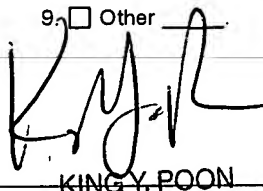
* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☒ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
- ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
- ☐ Notice of Informal Patent Application
- ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
- ☒ Examiner's Amendment/Comment
- ☒ Examiner's Statement of Reasons for Allowance
- ☐ Other _____



KING Y. POON

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Cynthia L. Pillote (Reg. No. 42,999) on 10/10/2007.

2. The application has been amended as follows:

In the abstract:

On **page 19, line 3**, change "... which is *going* to be calibrated ..."

to --- which is to be calibrated ---;

On **page 19, line 4**, change "... saturation parameter Pb ..."

to --- chrominance parameter Pb ---;

In claim 3:

On **lines 13, 19, 22**, change "saturation parameter Pb".

to --- *chrominance* parameter Pb ---;

In claim 4:

On **line 4**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

On **lines 2, 3**, change "... when the first value and the second value are larger than zero in step (2.3), the step (3.1) further comprising ..."

to --- when the first value and the second value are initially larger than zero, the step (3) further comprising ---

In claim 5:

On **line 5**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 6:

On **line 5**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 7:

On **lines 2, 3**, change "... when the first value and the second value are less than zero in the step (2.3), the step (3.1) further comprising ..."

to --- when the first value and the second value are initially less than zero, the step (3) further comprising ---

On **line 4**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

In claim 8:

On **line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **line 6**, change "... not less than ..."
to --- not larger than ---

In claim 9:

On **line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **line 6**, change "... not less than ..."
to --- not larger than ---

In claim 10:

On **lines 13, 22**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

In claim 11:

On **lines 2, 3**, change "... when the first value is larger than zero and the second value is less than zero in the step (2.3), the step (3.2) further comprising ..."
to --- when the first value is *initially* larger than zero and the second value is *initially* less than zero, the step (3) further comprising ---

In claim 12:

On **line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **line 6**, change "... not less than ..."
to --- not larger than ---

In claim 13:

On **line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

In claim 14:

On **lines 2, 3**, change "... when the first value is less than zero and the second value is larger than zero in the step (2.3), the step (3.2) further comprising ..."
to --- when the first value is *initially* less than zero and the second value is *initially* larger than zero, the step (3) further comprising ---

In claim 15:

On **line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **line 6**, change "not less than the Dy value"
to --- not larger than the Dy value ---;

In claim 16:

On **line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

In claim 17:

On **line 3**, change "(3.3) adjusting the ..."
to --- adjusting the ... ---;

In claim 18:

On **lines 2, 3**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

In claim 20:

On **lines 7, 11 – 12, 14**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 23:

On line 4, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 24:

On line 4, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 25:

On line 4, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 26:

On line 4, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In claim 27:

On line 4, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

On **line 5**, change "... not less than ..."
to --- not larger than ---

In claim 28:

On **line 4**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **line 5**, change "... not less than ..."
to --- not larger than ---

In claim 31:

On **line 4**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **line 5**, change "... not less than ..."
to --- not larger than ---

In claim 32:

On **line 4**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

In claim 34:

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On **line 4**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

On **line 5**, change "...not less than ..."

to --- not larger than ---

In claim 35:

On **line 4**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

In the specification:

On **page 1, paragraph 5, lines 5 – 6**, change "there are only two parameters needed"

to --- only two parameters are needed ---;

On **page 1, paragraph 4, line 3**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

On **page 2, paragraph 6** (of the amended specification), change "*Because it is impossible to convert two digital parameters Pb and Pr from analog signals, a*

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color deviation *then* occurs and the pixels cannot show the original colors. For example, sometimes black *looks like* dark purple *after transmitted*."

to --- Because it is impossible to convert two digital chrominance parameters Pb and Pr from analog signals, a color deviation occurs and the pixels cannot show the original colors. For example, sometimes black *appears as* dark purple after *being* transmitted. ---;

On **page 2, paragraph 7**, change "To solve this problem, a method and an apparatus *for color calibration* for calibrating a color image transmitted by component signals are required."

to --- To solve this problem, a method and an apparatus for calibrating a color image transmitted by component signals are required. ---;

On **page 2, paragraph 9, lines 2 – 3, 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 2, paragraph 10, line 5**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 3, paragraph 17, lines 4, 6, 7**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

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Per applicant's request, on **page 3, paragraph 17**, change "Fig. 2 is a CIE coordinate system; however, it is noted that the present invention can be utilized in any color coordinate systems."

to --- The color coordinate system shown in Fig. 2 is a CIE coordinate system. The CIE system characterizes colors by a luminance parameter Y and two color coordinates x and y which specify the point on the chromaticity diagram. This system offers more precision in color measurement than do the Munsell and Ostwald systems because the parameters are based on the spectral power distribution (SPD) of the light emitted from a colored object and are factored by sensitivity curves which have been measured for the human eye. Based on the fact that the human eye has three different types of color sensitive cones, the response of the eye is best described in terms of three "tristimulus values". However, once this is accomplished, it is found that any color can be expressed in terms of the two color coordinates x and y. The colors which can be matched by combining a given set of three primary colors (such as the blue, green, and red of a color television screen) are represented on the chromaticity diagram by a triangle joining the coordinates for the three colors. ---;

On **page 4, paragraph 18, line 3**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

On **page 4, paragraph 21, lines 2 – 3, 4, 5**, change "saturation parameter Pb"

to --- *chrominance* parameter Pb ---;

On **page 5, paragraph 23, line 1**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 5, paragraph 25, line 2**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 5, paragraph 26, line 2**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 5, paragraph 27, line 2**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 5, paragraph 28, line 2**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 6, paragraph 29, lines 2 - 3**, change "In step 3733, the saturation
parameter Pb is increased until the difference between Y1 and Y2 is not less
than the Dy value."

to --- In step 3733, the chrominance parameter Pb is increased until the
difference between Y1 and Y2 is not *greater* than the Dy value. ---;

On **page 6, paragraph 30, lines 2 - 3**, change "In step 3737, the saturation parameter Pb is increased until the difference between X1 and X2 is not less than the Dx value."

to --- In step 3737, the chrominance parameter Pb is increased until the difference between X1 and X2 is not *greater* than the Dx value. ---;

On **page 6, paragraph 32, lines 2 - 3**, change "In step 3753, the saturation parameter Pb is increased until the difference between Y1 and Y2 is not less than the Dy value."

to --- In step 3753, the chrominance parameter Pb is increased until the difference between Y1 and Y2 is not *greater* than the Dy value. ---;

On **page 6, paragraph 33, line 2**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 6, paragraph 35, lines 2 - 3**, change "In step 3773, the saturation parameter Pb is decreased until the difference between Y1 and Y2 is not *less* than the Dy value."

to --- In step 3773, the chrominance parameter Pb is decreased until the difference between Y1 and Y2 is not *greater* than the Dy value. ---;

On **page 7, paragraph 36, line 2**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 7, paragraph 38, line 4**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 7, paragraph 39, lines 1, 4**, change "saturation parameter Pb"
to --- *chrominance* parameter Pb ---;

On **page 7, paragraph 41**, change "to any systems"
to --- to any system ---;

3. The following changes to the drawings have been approved by the examiner and agreed upon by applicant:

- **Fig. 4, step 3733**, change "Increase Pb until the difference is not *smaller than Dy*" to --- Increase Pb until the difference is not *larger than Dy* ---;
- **Fig. 4, step 3737**, change "Increase Pb until the difference is not *smaller than Dx*" to --- Increase Pb until the difference is not *larger than Dx* ---;
- **Fig. 4, step 3773**, change "decrease Pb until the difference is not *larger Dy*" to --- decrease Pb until the difference is not *larger than Dy* ---;

4. In addition, the application has been amended as follows:

Per applicant's request, and as noted above, replace "saturation parameter Pb" with "chrominance parameter Pb" throughout;

Per applicant's request, and as noted above, in paragraphs [0029], [0030], [0032], [0035], claims 8, 9, 12, 15, 27, 28, 31, 34, the steps 3733 and 3737 of FIG. 4, change "the difference is not smaller than $Dx(Dy)$ " to "the difference is not larger/greater than $Dx(Dy)$ ". Accordingly, the difference is not larger/greater than $Dx(Dy)$ throughout the specification and claims.

In order to avoid abandonment of the application, applicant must make these above agreed upon drawing changes.

5. Claims 3 – 20, 23 – 28, and 30 – 36 are allowed. The following is an examiner's statement of reasons for allowance.

Claims 3, 10 and 20 are directed to a method and apparatus for calibrating an input color. Claim 20, as do claims 3 and 10, identifies the uniquely distinct features of:

when the first value and the second value have a same sign, adjusting the saturation chrominance parameter Pb until one of the following conditions is satisfied: the first value and the second value have different signs; and one of the first value and the second value is zero; or

when the first value and the second value have different signs, adjusting the chrominance parameter Pr until one of the following conditions is satisfied: the first value and the second value have a same sign; and one of the first value and the second value is zero.

Applicant's claims include elements which are not taught by the prior art nor rendered obvious. An example of prior art includes:

- **GONSALVES [US Patent Application 2002/0041709 A1]** teaches a method and an apparatus for "re-coloring" pixels of a source image by calculating offsets in "hue, saturation and luminance between the source and destination colors. The source image is then adjusted using these offsets to produce the desired color"; **page 1, paragraph 15.**

GONSALVES teaches calculating these offsets directly from the source (i.e., input) and destination (i.e., target) colors whereas the current application teaches *incremental adjustments* to the input color to arrive at

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a target color. These "incremental adjustments" correspond to the conditions:

the first value and the second value have different signs;

the first value and the second value have a same sign;

one of the first value and the second value is zero

where "first value" and "second value" correspond to differences (or errors) between color components of the "target" and "input" color values. This "incremental adjustment" is further illustrated by the "first condition" through "eight condition" as cited in the dependent claims.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter L. Cheng whose telephone number is 571-270-3007. The examiner can normally be reached on MONDAY - FRIDAY, 8:30 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, King Y. Poon can be reached on 571-272-7440. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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